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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,492	04/07/2000	Swain W. Porter	112076-138333	1773

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EXAMINER
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ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 August 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-29</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>13-15 and 27-29</u> is/are allowed.

6)☒ Claim(s) <u>1-12 and 16-26</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-29 are presented for examination.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

Claim Objections

3. Claim 1 is objected to because of the following informalities: in line 5 operation should

be changed to operating. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
>
> claiming the subject matter which the applicant regards as his invention.

5. Claims 1-12, 16-26 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

6. As per claim 1, it is unclear how the remapping can be done by the operating system in line 5-6 and then the remapping is being performed independent of the operating system in line 7-8. Are the two remappers different? If so how are they different? Claims 7, 16,19,21,23 and 25 have similar problems.

Allowable Subject Matter

7. Claims 13-15 and 27- 29 are allowed over prior art of record.

8. Claims 16-18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

9. Claim 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-12 and 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kane et al (5,596,739) (hereinafter Kane) in view of Behnke (5,864,705) (hereinafter

Behnke).

12. As per claim 1, Kane teaches a processor comprising:

a control register accessible to an operating system to store a current privilege level to

attribute an execution privilege level to a task for the processor (col. 1 lines 59-64; col. 18

lines 6-20; col. 10 lines 29-57; col. 20 lines 40-63);

a privilege remapper coupled to the control register and configured to remap a current

privilege level stored in the control register for the task by the operating system, to a

different current privilege level attributing a different execution privilege level to the task

for the processor (col. 10 lines 29-32; col. 18 lines 45-57).

13. Kane does not specifically teach the use of an independent operating system.

Bhenke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9lines

60-65; col. 12 lines 39-43).

14. It would have been obvious to one skilled in the art at the time of the invention to

combine the teaches of Kane and Bhenke because Behnke's method of using of

independent operating system would improve Kane's system by allowing the operating

system to run subsystems independently from the other operating system.

15. As per claim 2, Kane teaches a privilege remapper comprises a register to store a plurality of remapped current privilege levels to be accessed using the stored current privilege level prior to runtime privilege checking (col. 18 lines 50-57; col. 10 lines 29-57).

16. As per claim 3, Kane teaches a privilege remapper comprises a storage array to store a plurality of set of remapped current privilege levels to be accessed using a configuration value and the stored current privilege level prior to runtime privilege checking (col. 20 lines 40-63; col. 18 lines 50-57; col. 10 lines 29-57).

17. As per claim 4, Kane teaches a privilege remapper comprises one or more logical elements to logically alter one or more bits of the stored current privilege level prior to runtime privilege checking (col. 1 lines 59-64; col. 10 lines 29-57;col. 18 lines 50-57).

18. As per claim 5, Kane teaches a privilege remapper further comprises at least one selector coupled to at least one of the one or more logical elements to effectuate conditional performance of said logical alteration for at least one bit of the stored current privilege level prior to runtime privilege checking (col. 18 lines 50-57; col. 10 lines 29-57).

19. As per claim 6, Kane teaches a processor further comprises at least one selector coupled to the control register and the privilege remapper to effectuate conditional performance of said remapping of the stored current privilege level prior to runtime privilege checking (col. 16 lines 16-21; col. 18 lines 50-57; col. 10 lines 29-57).

20. As per claim 7, Kane teaches a method comprising:

accessing a control register of a processor, the control register being also accessible to an

operating system and employed by the operating system to store a first current privilege

level to attribute an execution privilege level to a task for the processor (col. 1 lines 59-

64; col. 18 lines 6-20; col. 10 lines 29-57);

remapping the first current privilege level to a second task privilege level to attribute a

different execution privilege level to the task for the processor (col. 18 lines 50-57; col.

10 lines 29-57).

Bhenke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9lines

60-65; col. 12 lines 39-43).

21. As per claim 8, Kane teaches a remapping comprises accessing a register to retrieve one

of a plurality of remapped current privilege levels stored in said register, using the stored

first task privilege level, prior to runtime privilege checking (col. 18 lines 50-57; col. 10

lines 29-57).

22. As per claim 9, Kane teaches a remapping comprises accessing a storage array to retrieve

one of a plurality of remapped current privilege levels stored in said storage array in a

set-wise manner, using a configuration value and the stored first task privilege level, prior

to runtime privilege checking (col. 18 lines 50-57).

23. As per claim 10, Kane teaches a remapping comprises logically altering one or more bits of the stored first current privilege level, prior to runtime privilege checking (fig. 2a, col. 5 lines 23-30; col. 10 lines 29-57).

24. As per claim 11, Kane teaches altering being conditionally performed (col. 18 lines 50-57, fig. 2a, col. 5 lines 23-30).

25. As per claim 12, Kane teaches a remapping being conditionally performed (col. 18 lines 50-57, fig. 2a, col. 5 lines 23-30).

26. As per claim 19, Kane teaches a method comprising:

remapping more privileged current privilege level attributed by an operating system to a first least privileged tasks to be executed by a processor to a least privileged current privilege, for prior to the execution of the first least privileged task by the processor (col. 1 lines 59-64; col. 18 lines 6-20; col. 10 lines 29-57; col. 20 lines 40-63);

remapping a least privileged current privilege level attributed by an operating system to a second least privileged tasks to execute by the processor to a more privileged current privilege level prior to the execution of second least privileged task by the processor (col. 18 lines 51-57; col. 10 lines 29-57; col. 20 lines 40-63).

Bhenke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9 lines 60-65; col. 12 lines 39-43).

27. As per claim 20, Kane teaches a least privileged current privilege level of said residual

ones of said least privileged tasks are remapped to said first more privileged current

privilege level (col. 18 lines 51-57; col. 10 lines 29-57).

28. Claims 21-22 is rejection based on the same rejection as claims 19-20.

29. As per claim 23, Kane teaches the use of a processor comprising:

a control register accessible to an operating system to store a current privilege level for a

task, using an instruction of the processor(col. 18 lines 4-30; col. 10 lines 29-57); and

a privilege remapper coupled to the control register and configured to remap the stored

current privilege level prior to runtime privilege checking (col. 18 lines 51-57; col. 10

lines 29-57; col. 10 lines 29-57).

Bhenke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9lines

60-65; col. 12 lines 39-43).

30. As per claim 24, Kane teaches the use of an processor further comprises at least one

selector coupled to the control register and the privilege remapper to effectuate

conditional performance of said remapping of the stored current privilege level prior to

runtime privilege checking (col. 18 lines 5-30, col. 18 lines 51-57; col. 10 lines 29-57).

31. Claim 25 is rejected based on the same rejection as claims 1 above.

32. Claim 26 is rejected based on the same rejection as claims 6 above.

Response to Arguments

33. Applicant's arguments filed 8/11/05 have been fully considered but they are not

persuasive.

34. In remarks applicants argues that Behnke does not teach the use of an independent

operating system.

35. Examiner respectfully disagrees with applicant remarks.

It is unclear to the examiner how the remapper can be both independent and dependent on

an operating system. However, Behnke clearly teaches the use of an independent

operating system (col. 7 lines 40-60; col. 9lines 60-65; col. 12 lines 39-43).

Conclusion

36. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

37. A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

38. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nilesh Shah whose telephone number is (571)272-3771.

The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng An can be reached on (571)272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Nilesh Shah
Examiner
Art Unit 2195

NS

October 25, 2005

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100